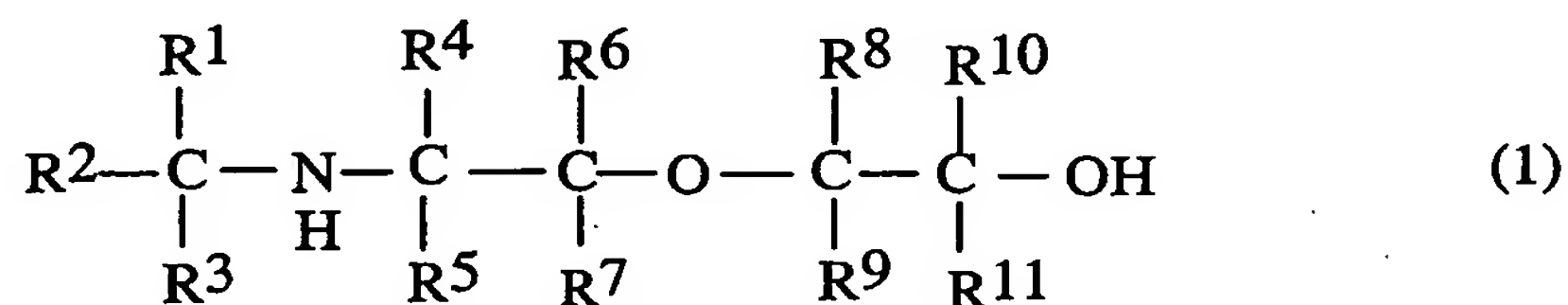


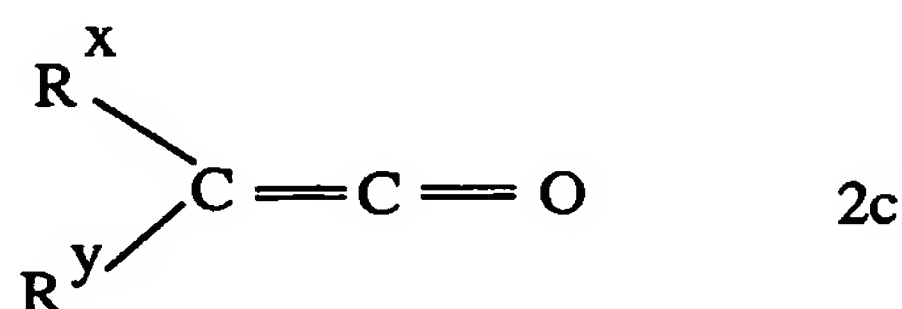
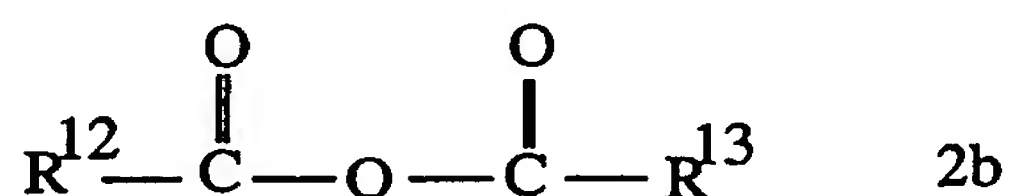
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## CLAIMS:

1. A method for the synthesis of severely sterically hindered secondary aminoether alcohols of the formula

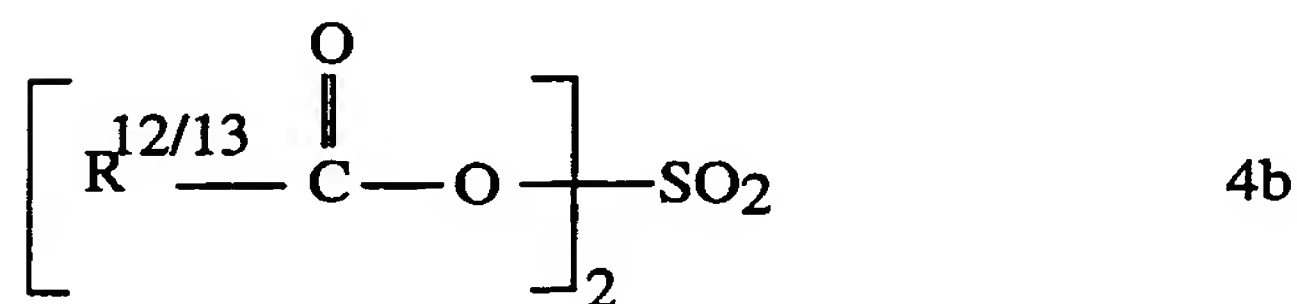
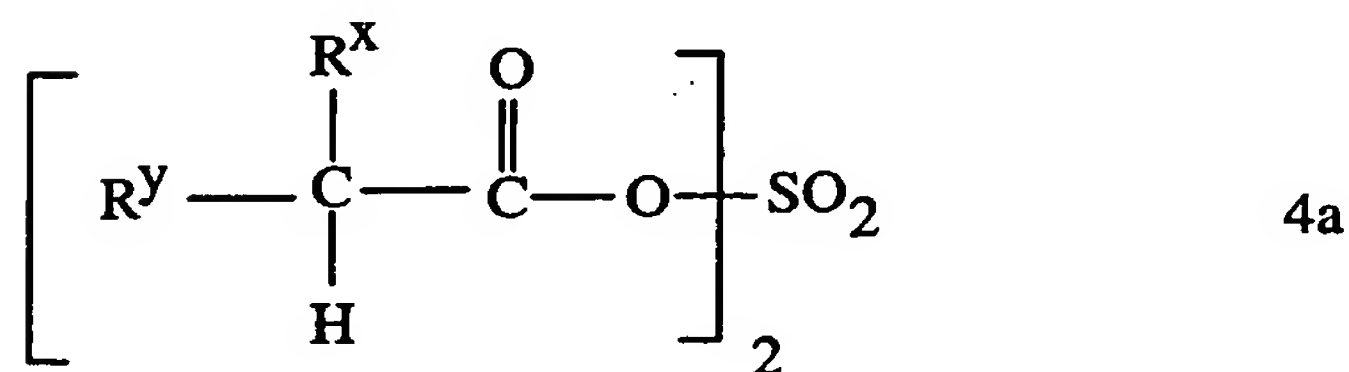
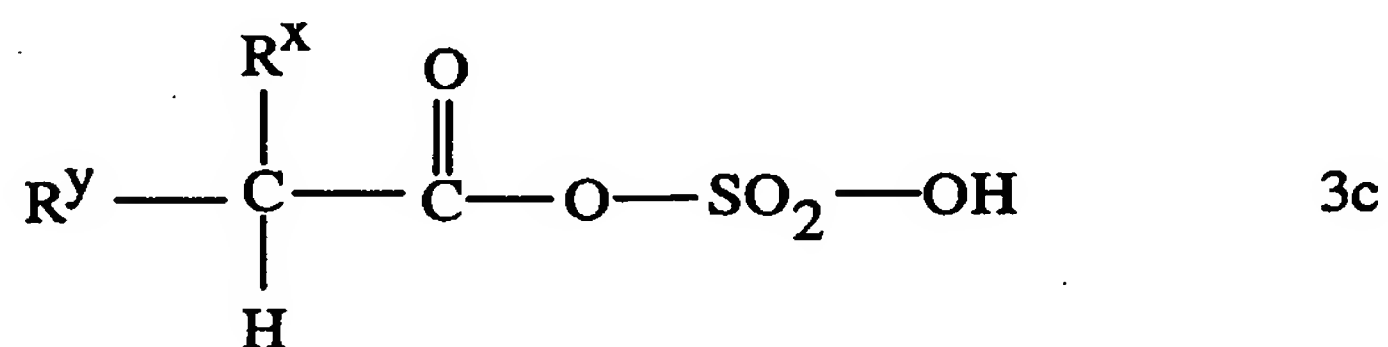
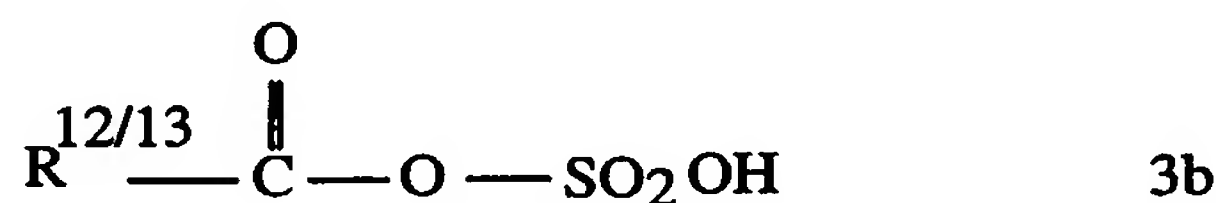
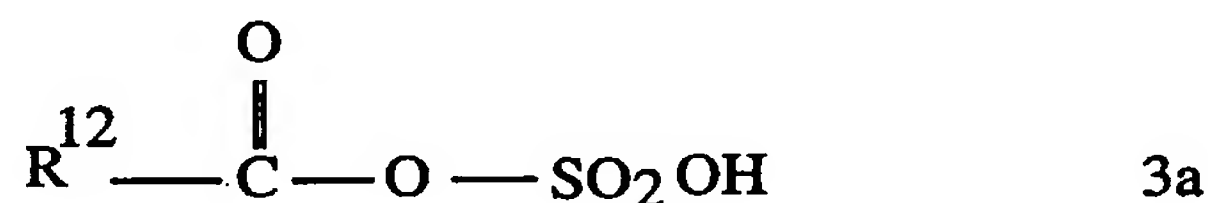


wherein  $R^1$  and  $R^2$  are each selected from the group consisting of alkyl, hydroxylalkyl radicals having 1 to 4 carbon atoms or in combination with the carbon atom to which they are attached they form a cycloalkyl group having 3 to 8 carbon atoms, and  $R^3$  is selected from the group consisting of hydrogen, alkyl and hydroxyalkyl radicals having 1 to 4 carbon atoms, and mixtures thereof, and  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  are the same or different and are selected from the group consisting of hydrogen, alkyl and hydroxyalkyl radicals having 1 to 4 carbons provided that at least one of  $R^4$  or  $R^5$  bonded to the carbon atom directly bonded to the nitrogen atom is an alkyl or hydroxyalkyl radical when  $R^3$  is hydrogen, the process involving reacting an organic carboxylic acid halide, an organic carboxylic acid anhydride, a ketene, or a mixture of any two or of all three thereof, of the formula



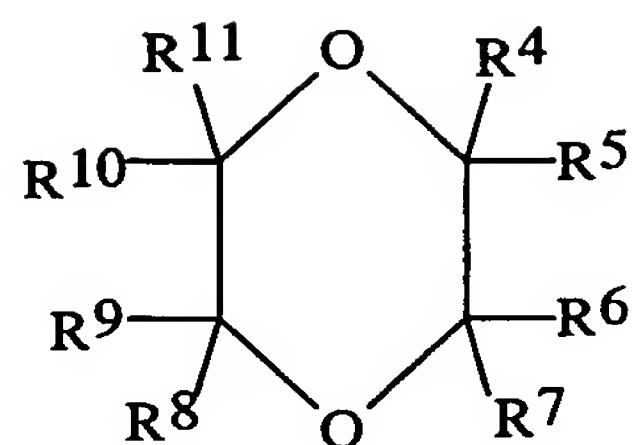
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wherein  $R^{12}$  and  $R^{13}$  are the same or different and are selected from the group consisting of alkyl radicals having 1 to 4 carbon atoms, aryl radicals bearing hydrogen or  $C_1$  to  $C_{10}$  alkyl radicals substituted thereon, and mixtures thereof, X is a halogen selected from the group consisting of F, Cl, Br, I, and mixtures thereof, and  $R^X$  and  $R^Y$  are the same or different and are selected from the group consisting of hydrogen, alkyl radicals having 1-4 carbons, aryl radicals, aryl radicals bearing substituents selected from the group consisting of hydrogen and one or more alkyl radicals having 1 to 10 carbons, and mixtures thereof, or  $R^X$  and  $R^Y$  in combination with the carbon to which they are attached form a cycloalkyl radical having 3 to 8 carbons, with 50% sulfuric acid to fuming sulfuric acid to yield monoacylsulfate (3) and/or diacylsulfate (4) of the formula



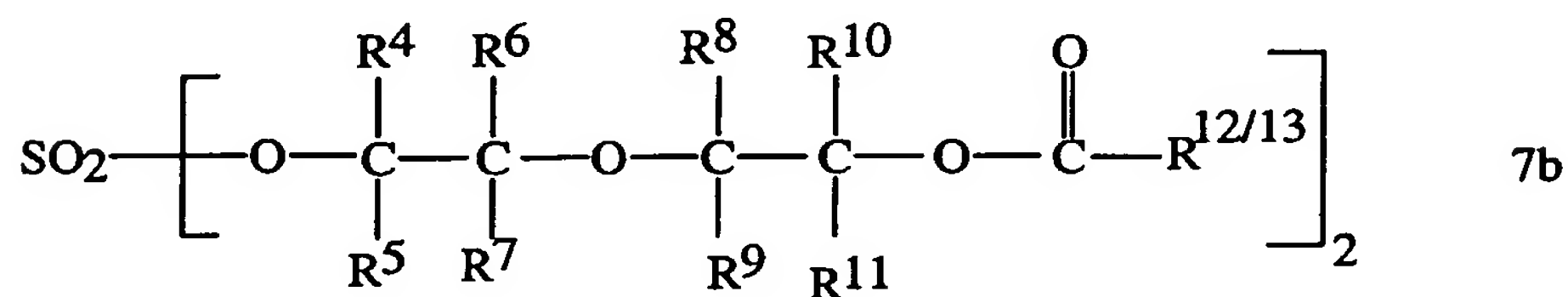
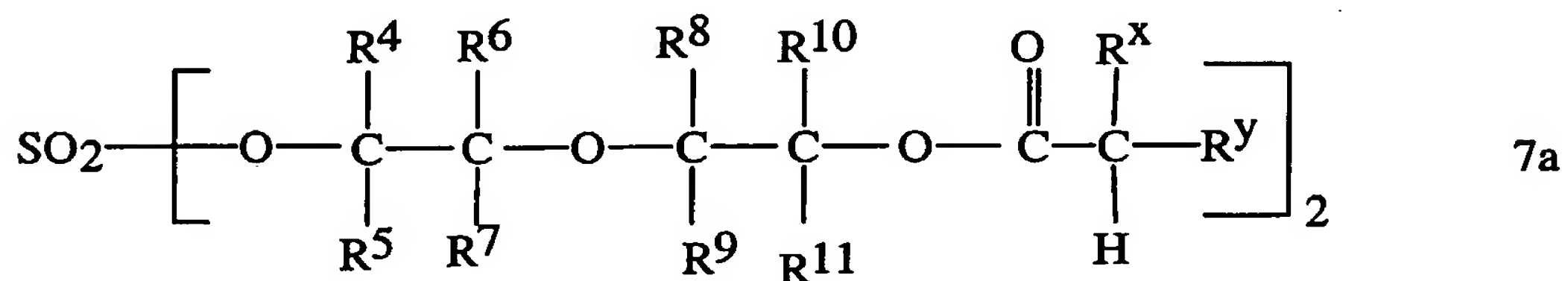
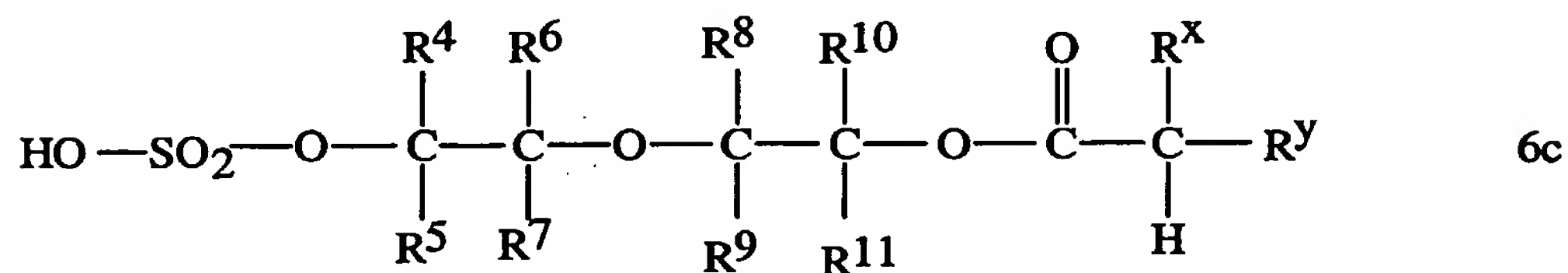
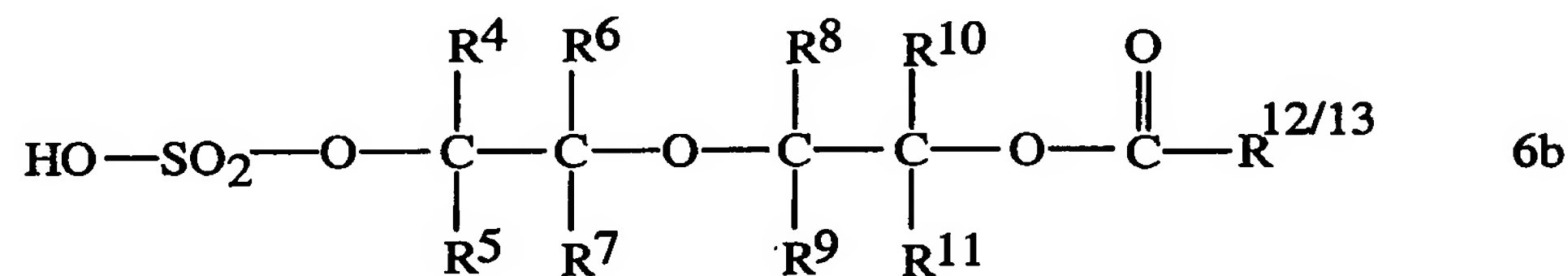
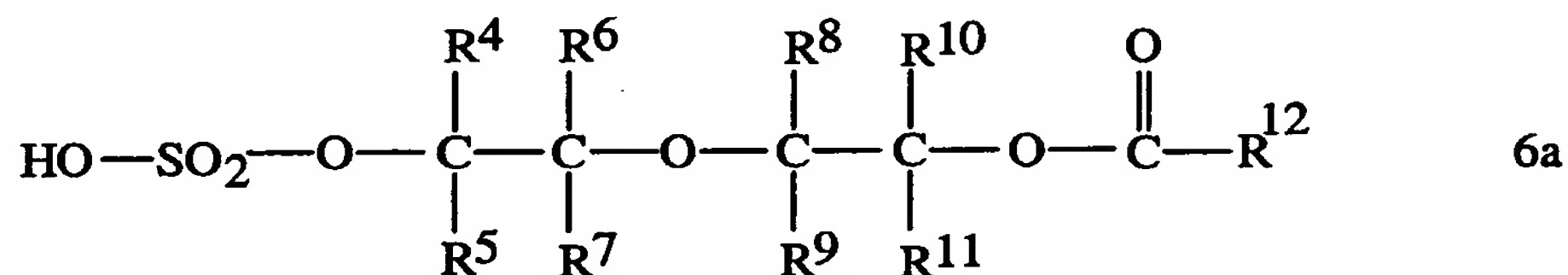
which is then reacted with a dioxane of the formula

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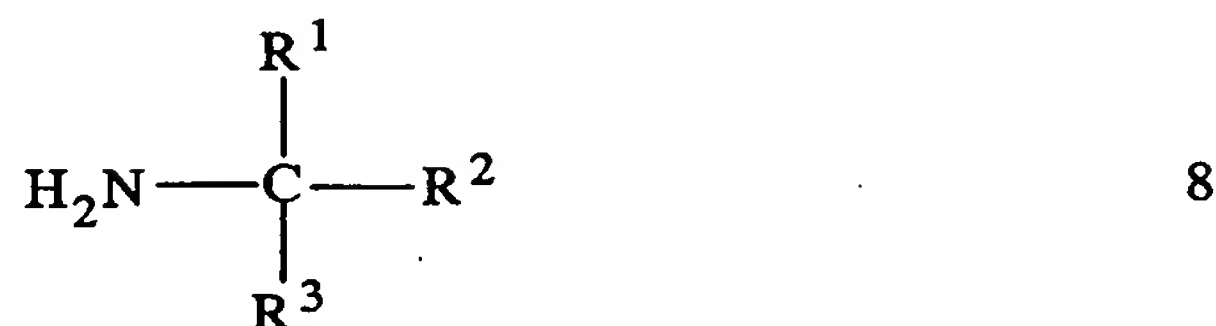
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wherein  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$ , and  $R^{11}$  are the same or different and are selected from hydrogen, alkyl and hydroxyalkyl radicals having 1 to 4 carbons to yield products of the structure 6 and/or 7:

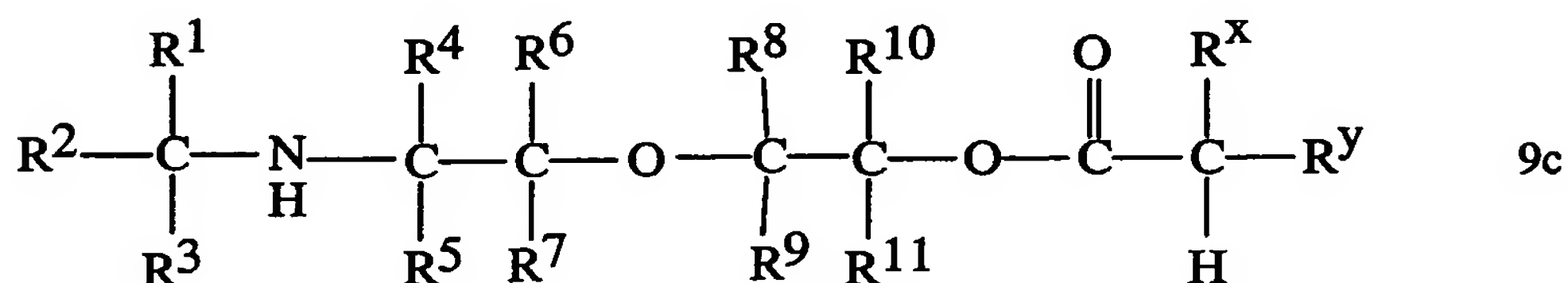
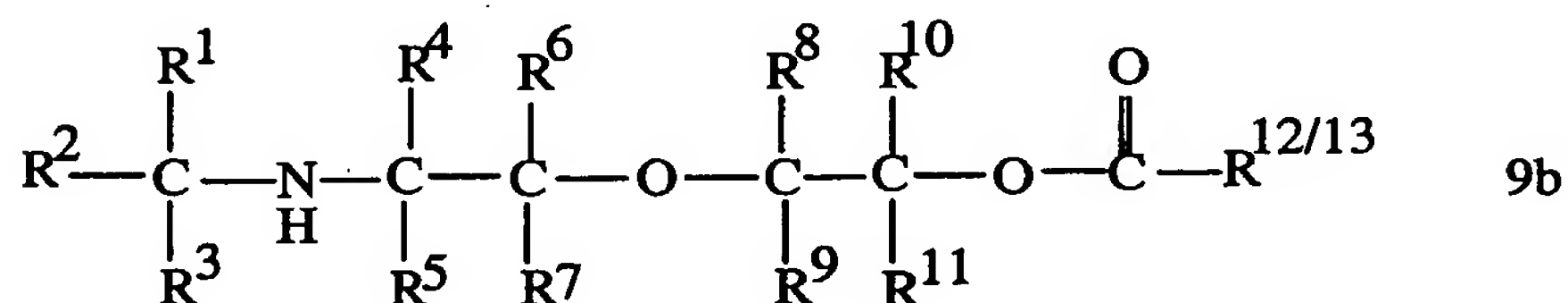
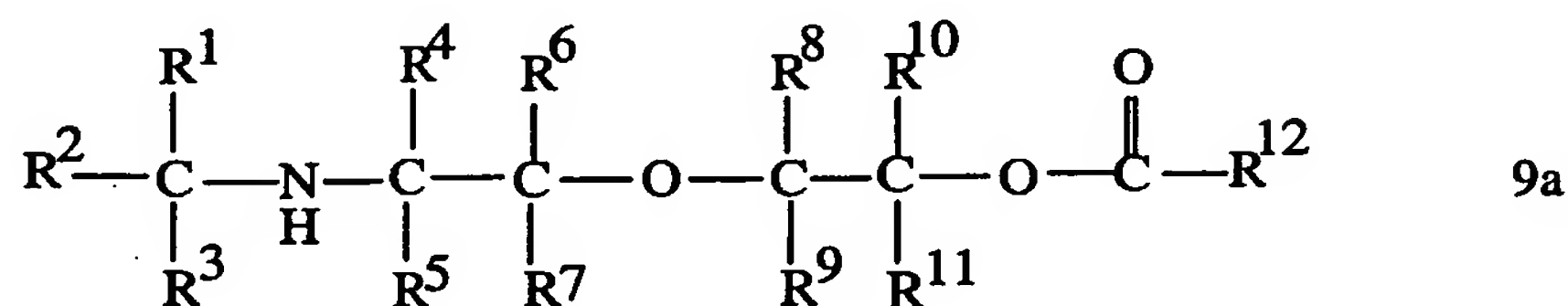


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and mixtures thereof, which are then aminated with an alkyl amine of the formula



wherein R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are as previously defined to yield material of the general formula 9



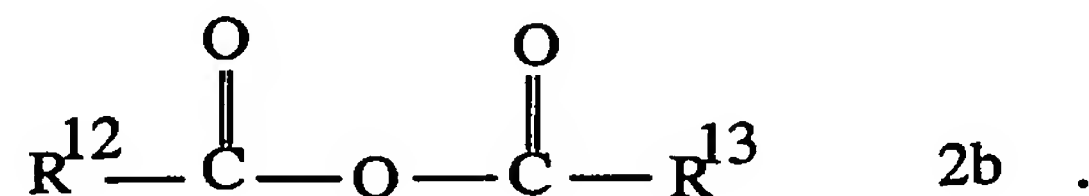
or mixtures thereof, which is then hydrolyzed with base to yield product (1).

2. The method of claim 1 for the synthesis of severely sterically hindered secondary aminoether alcohols using the organic carboxylic acid halide of the formula

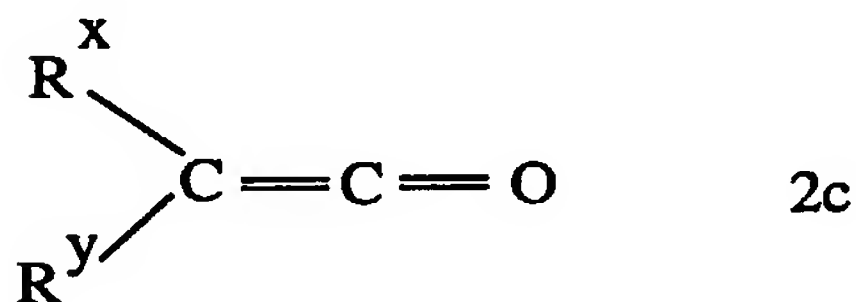


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3. The method of claim 1 for the synthesis of severely sterically hindered secondary aminoether alcohols using the organic carboxylic acid anhydride of the formula



4. The method of claim 1 for the synthesis of severely sterically hindered secondary aminoether alcohols using a ketene of the formula



5. The method according to any one of the preceding claims wherein R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are methyl radicals.

6. The method according to any one of the preceding claims wherein R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are hydrogen, and R<sup>x</sup> and R<sup>y</sup> are hydrogen or phenyl.

7. The method according to any one of the preceding claims wherein the base is selected from alkali metal hydroxide, alkali metal alkoxide, or alkali metal carbonate.

8. The method according to any one of the preceding claims wherein R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> are methyl, R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, R<sup>9</sup>, R<sup>10</sup> and R<sup>11</sup> are hydrogen and R<sup>x</sup> and R<sup>y</sup> are hydrogen or phenyl.

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9. The method according to any one of the preceding claims wherein the ketene, organic carboxylic acid halide, organic carboxylic acid anhydride, mixture of any two or of all three thereof, and the  $\text{H}_2\text{SO}_4$  are reacted in about a stoichiometric ratio at a temperature between about  $-80^\circ\text{C}$  to about  $150^\circ\text{C}$ , the resulting sulfate is reacted with the dioxane at a dioxane to sulfate ratio of about stoichiometric to about 10:1 to cleave the dioxane at a temperature between about  $-80^\circ\text{C}$  to about  $200^\circ\text{C}$ , the resulting cleavage product is reacted with the alkyl amine in an amine to cleavage product mole ratio of about stoichiometric to about 10:1 at a pressure of from about atmospheric (1 bar) to about 100 bars, at a temperature of between about  $40^\circ\text{C}$  to about  $200^\circ\text{C}$ , and the aminated product is hydrolyzed with base at between about  $20^\circ\text{C}$  to about  $110^\circ\text{C}$ .

10. The method according to any one of the preceding claims wherein the mixing of the ketene, organic carboxylic acid halide, organic carboxylic acid anhydride, mixture of any two or of all three, the sulfuric acid and the dioxane are combined in a single step, the reaction mixture being heated at a temperature of between about  $-80^\circ\text{C}$  to about  $200^\circ\text{C}$  to produce a cleavage product, the cleavage product and the alkylamine are reacted at an amine to cleavage product ratio ranging from about stoichiometric to about 10:1 at a pressure from about atmospheric (1 bar) to about 100 bars at a temperature of between about  $40^\circ\text{C}$  to about  $200^\circ\text{C}$ , and the aminated product is hydrolyzed with base at between about  $20^\circ\text{C}$  to about  $110^\circ\text{C}$ .